

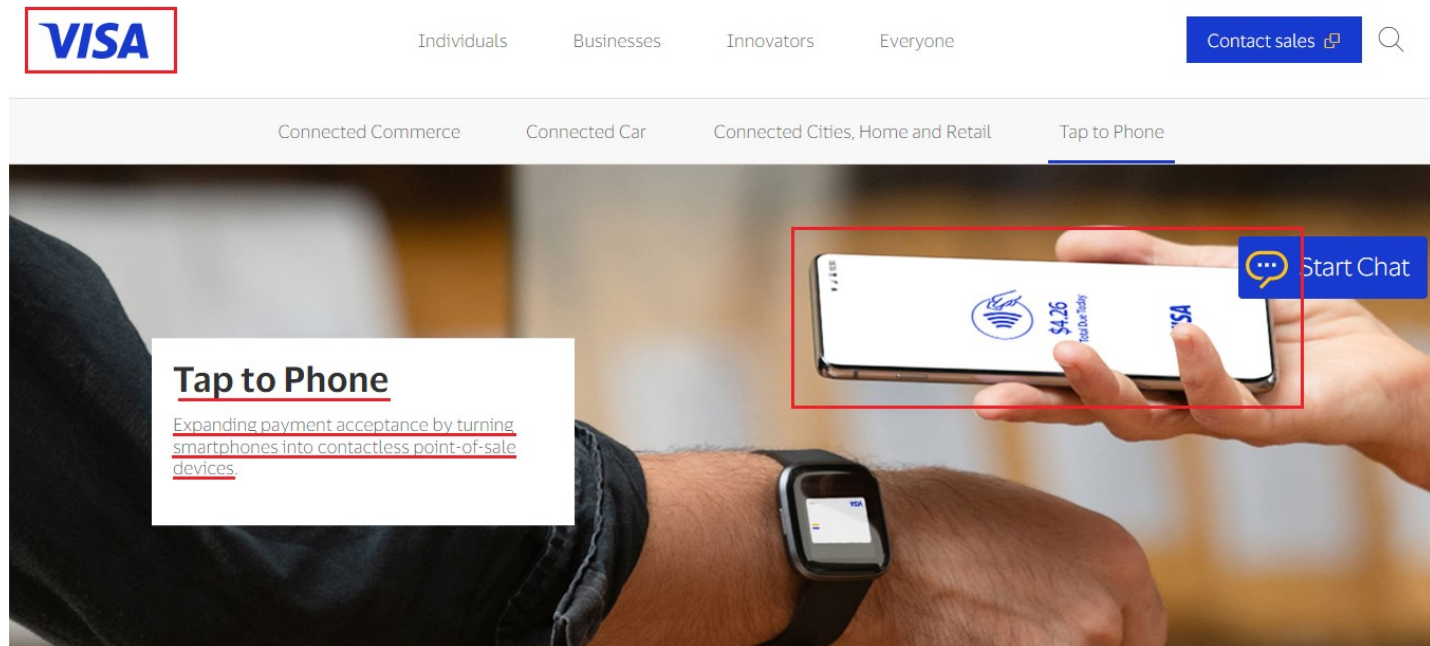
Exhibit 3

Charted claims

Non-Method claim: 1

US8788360B2	VISA Tap to phone ("The Accused Product")
<p>1. A system for processing a wireless request over a network based on a human-perceptible advertisement for advertising to consumers a product or service offered by a vendor, the advertisement attached with at least one radio frequency identification (RFID) tag, the at least one RFID tag being configured to transmit a</p>	<p>The accused product discloses a system (e.g., Tap to phone payments) for processing a wireless request (e.g., payment request) over a network based on a human-perceptible advertisement (e.g., informing to tap to pay by a contactless payment card) for advertising to consumers a product or service offered by a vendor (e.g., Small businesses, especially micro-businesses in developing markets), the advertisement (e.g., informing to tap to pay by a contactless payment card) attached with at least one radio frequency identification (RFID) tag (e.g., NFC tag on contactless card), the at least one RFID tag (e.g., NFC tag on contactless card) being configured to transmit a wireless identification transmission signal (e.g., tag responds with the requested information corresponding to a prompt for inputting a PIN) representing information pertaining to the product or service offered by a vendor (e.g., Small businesses, especially micro-businesses in developing markets).</p> <p>As shown below, Visa Tap to phone is a contactless payment system using Near Field Communication (NFC) technology wherein a user can Pay with your contactless card to an Android phone with NFC-technology equipped with tap to phone software (e.g., NFC tag) provided in the store. The Android phone with NFC-technology equipped with tap to phone software is a platform for displaying a human-perceptible advertisement for advertising to consumers a product or service offered by a vendor. The RFID tag (e.g., NFC tag) transmits a wireless identification transmission signal (e.g., tag responds with the requested information) representing the product or service offered by a vendor (e.g., small businesses, especially micro-businesses in developing markets).</p>

wireless
identification
transmission
signal
representing
information
pertaining to
the product or
service
offered by a
vendor
comprising:



<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>

Tap to Phone (TTP) lets sellers use the smartphones they already own to accept payments simply by downloading an app. The Android phone with NFC-technology enables off-the-shelf mobile devices to accept contactless payments without the investment in additional hardware.

These innovations in digital payment solutions are a powerful lever for increasing financial inclusivity by providing under- or unbanked sellers and customers greater access to digital payments. Visa and partners are at the forefront of this monumental change, leading the charge in a new era of smartphone payments.

<https://usa.visa.com/content/dam/VCOM/regional/na/us/visa-everywhere/documents/tap-to-phone-technology-financial-inclusion-whitepaper.pdf>

6Lo Working Group
Internet-Draft
Intended status: Standards Track
Expires: 25 April 2023

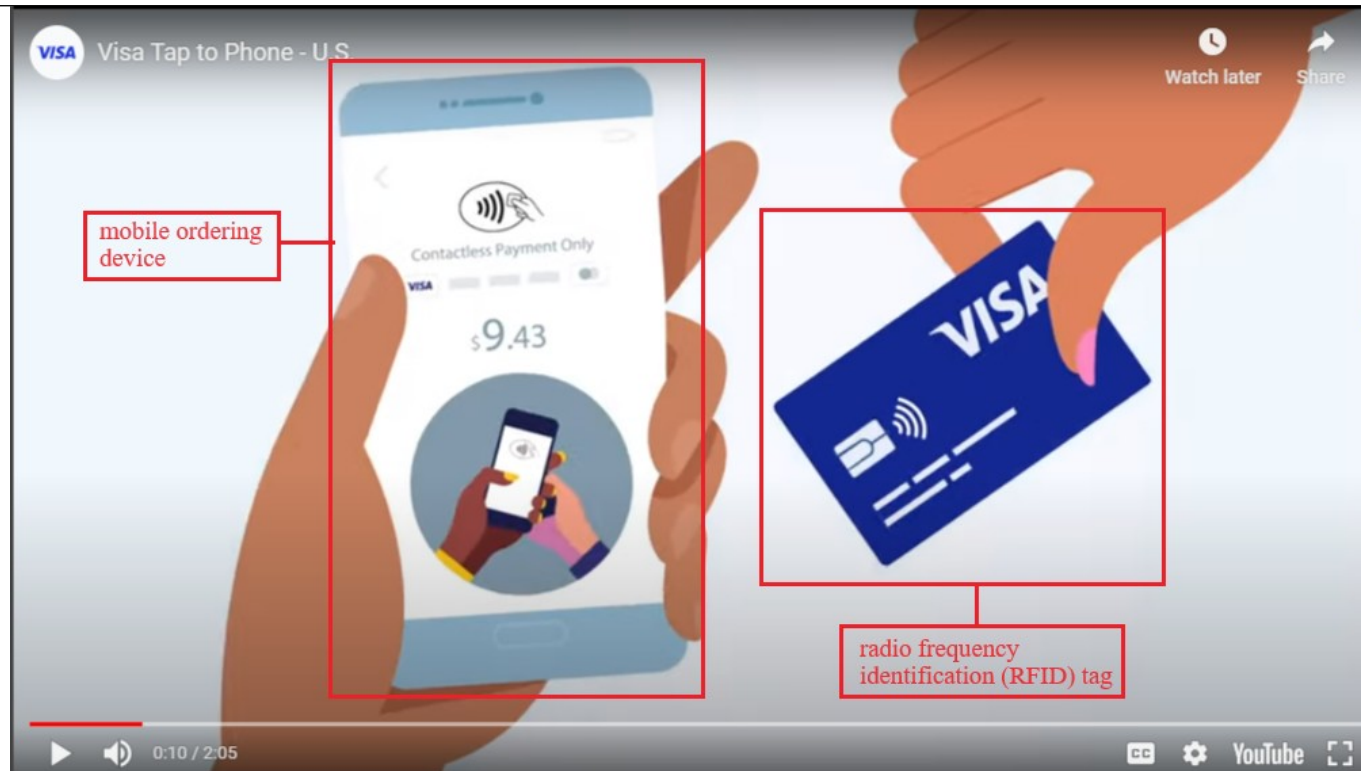
Y. Choi, Ed.
ETRI
Y-G. Hong
Daejeon Univ.
J-S. Youn
Dongueui Univ.
D-K. Kim
KNU
22 October 2022

Transmission of IPv6 Packets over Near Field Communication
draft-ietf-6lo-nfc-18

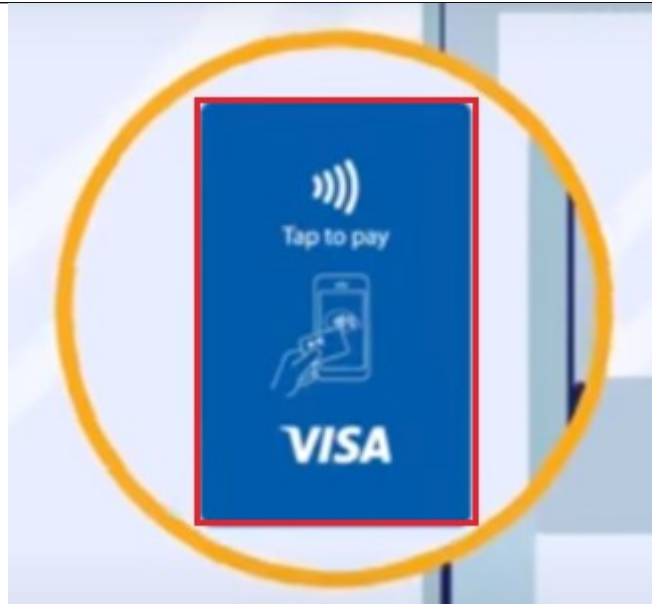
Abstract

Near Field Communication (NFC) is a set of standards for smartphones and portable devices to establish radio communication with each other by touching them together or bringing them into proximity, usually no more than 10 cm apart. NFC standards cover communications protocols and data exchange formats, and are based on existing radio-frequency identification (RFID) standards including ISO/IEC 14443 and FeliCa. The standards include ISO/IEC 18092 and those defined by the NFC Forum. The NFC technology has been widely implemented and available in mobile phones, laptop computers, and many other devices. This document describes how IPv6 is transmitted over NFC using 6LoWPAN techniques.

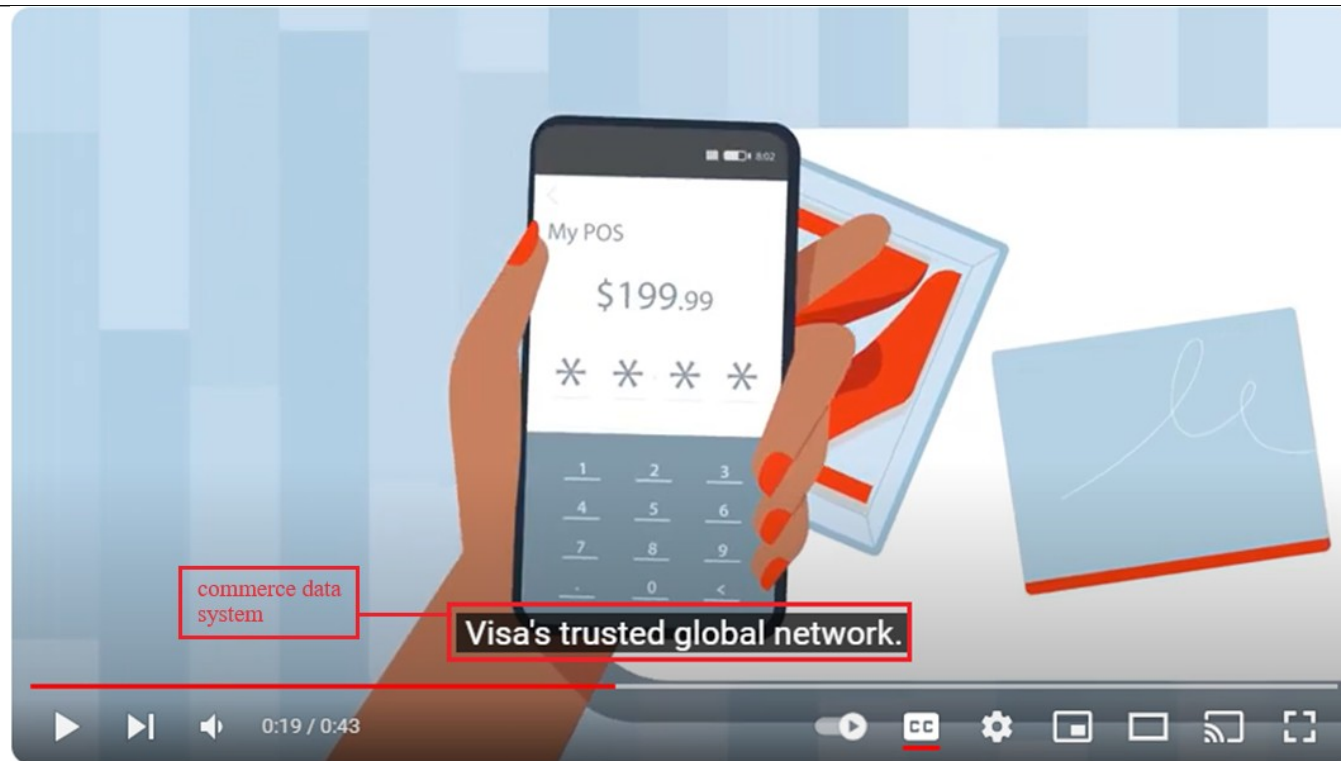
<https://www.ietf.org/archive/id/draft-ietf-6lo-nfc-18.txt>



<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>



<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>



https://www.youtube.com/watch?v=cU7VxMjf3u8&ab_channel=VisaCommunication

New places, new possibilities

Tap to Phone opens up a new world of payment experiences—both face-to-face and unattended.



<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>

Near Field Communication Technology Standards

When developing near field communication devices and new technology, NFC standards must be met. Standards exist to ensure all forms of near field communication technology can interact with other NFC compatible devices and will work with newer devices in the future. Two major specifications exist for NFC technology: ISO/IEC 14443 and ISO/IEC 18000-3. The first defines the ID cards used to store information, such as that found in NFC tags. The latter specifies the RFID communication used by NFC devices.

ISO/IEC 18000-3 is an international standard for all devices communicating wirelessly at the 13.56MHz frequency using Type A or Type B cards, as near field communication does. The devices must be within 4cm of each other before they can transmit information. The standards explain how a device and the NFC tag it is reading should communicate with one another. The device is known as the interrogating device while the NFC tag is simply referred to as the tag.

<http://nearfieldcommunication.org/technology.html>

The two devices create a high frequency magnetic field between the loosely coupled coils in both the interrogating device and the NFC tag. Once this field is established, a connection is formed and information can be passed between the interrogator and the tag. The interrogator sends the first message to the tag to find out what type of communication the tag uses, such as Type A or Type B. When the tag responds, the interrogator sends its first commands in the appropriate specification.

The tag receives the instruction and checks if it is valid. If not, nothing occurs. If it is a valid request, the tag then responds with the requested information. For sensitive transactions such as credit card payments, a secure communication channel is first established and all information sent is encrypted.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it. Meeting these specifications ensures all NFC devices and tags can communicate effectively with one another.

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	<p>ISO/IEC 18000-63:2013 specifies the physical and logical requirements for a passive-backscatter, Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags, also known as labels. An Interrogator receives information from a tag by transmitting a continuous-wave (CW) RF signal to the tag; <u>the tag responds by modulating the reflection coefficient of its antenna, thereby backscattering an information signal to the Interrogator.</u> The system is ITF, meaning that a tag modulates its antenna reflection coefficient with an information signal only after being directed to do so by an Interrogator.</p> <p>ISO/IEC 18000-63:2013 contains Type C.</p> <p>Type C uses PIE in the forward link and a random slotted collision-arbitration algorithm.</p> <p>ISO/IEC 18000-63:2013 specifies https://www.iso.org/standard/59643.html</p>
mobile ordering device of a human consumer who perceives the human-perceptible advertisement, the mobile	<p>The accused product discloses mobile ordering device (e.g., Android phone with NFC-technology) of a human consumer who perceives the human-perceptible advertisement (e.g., informing to tap to pay by a contactless payment card), the mobile ordering device (e.g., Android phone with NFC-technology) comprising a radio frequency identification reader (e.g., Android phone operating as a reader) configured to transmit a signal (e.g., transmitting a continuous-wave (CW) RF signal for scanning the contactless card) to the at least one RFID tag (e.g., NFC tag on contactless card) attached with the advertisement (e.g., informing to tap to pay by a contactless payment card) and to receive in response (e.g., responds) from the at least one RFID tag (e.g., NFC tag on contactless card) the wireless identification transmission signal (e.g., tag responds with the requested information corresponding to a prompt for inputting a PIN) corresponding to</p>

<p>ordering device comprising a radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag the wireless identification transmission signal corresponding to the advertisement and representing information pertaining to the product or</p>	<p>the advertisement (e.g., informing to tap to pay by a contactless payment card) and representing information pertaining to the product or service offered by the vendor (e.g., Small businesses, especially micro-businesses in developing markets), the mobile ordering device (e.g., Android phone with NFC-technology) further configured to accept input (e.g., PIN for the transaction) from a consumer, generate an electronic request (e.g., payment request) with the received information from the wireless identification transmission signal (e.g., tag responds with the requested information corresponding to a prompt for inputting a PIN) and communicate the request (e.g., payment request) to and receive a response (e.g., acknowledgement in the form of Done or a checkmark on the display screen) from a commerce data system (e.g., Visa's trusted global network) across a network.</p> <p>As shown below, Visa Tap to phone is a contactless payment system using Near Field Communication (NFC) technology wherein a user can Pay with your contactless card to an Android phone with NFC-technology (e.g., NFC tag on reader's phone). Initial connection setup is established through a radio frequency network wherein tag receives the instruction from the NFC Interrogator/reader or radio frequency identification reader (e.g., NFC antenna area) during the scanning process of the contactless card (equipped with an NFC Tag) and checks if it is valid. If it is a valid request, the tag then responds with the requested information. This information includes a prompt to enter the pin for continuing the payment.</p> <p>After inputting the pin, the device sends a request to the commerce data system to process the payment. Once the payment is processed, the commerce data system responds with an approved message and an option to send receipt for the transaction as the response to the request.</p>
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service offered by the vendor, the mobile ordering device further configured to accept input from a consumer, generate an electronic request with the received information from the wireless identification transmission signal and communicate the request to and receive a response from a commerce data system across a network;

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a radio frequency identification reader configured to transmit a signal to the at least one RFID tag

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ISO/IEC 18000-63:2013 contains Type C.

Type C uses PIE in the forward link and a random slotted collision-arbitration algorithm.

ISO/IEC 18000-63:2013 specifies
<https://www.iso.org/standard/59643.html>

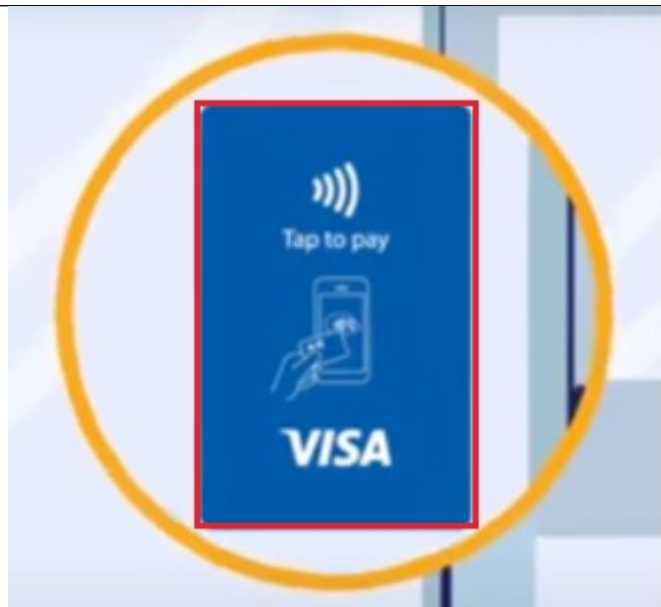


The image is a screenshot of a YouTube video player. The video content is an advertisement for Visa Tap to Phone. It features two main elements: a hand holding a smartphone on the left and a hand holding a blue Visa card on the right. The smartphone screen displays a contactless payment interface with the text 'Contactless Payment Only', a Visa logo, and a transaction amount of '\$9.43'. A red rectangular box is drawn around the smartphone screen, and a red line connects it to a text box on the left that reads 'mobile ordering device'. The Visa card has a white contactless symbol (three curved lines) on its left side. A red rectangular box is drawn around the card, and a red line connects it to a text box below it that reads 'radio frequency identification (RFID) tag'. The video player interface includes a play button, a volume icon, a progress bar showing '0:10 / 2:05', and icons for closed captions, settings, and full screen. The video title 'Visa Tap to Phone - U.S.' is visible at the top left, and the YouTube logo is at the bottom right.

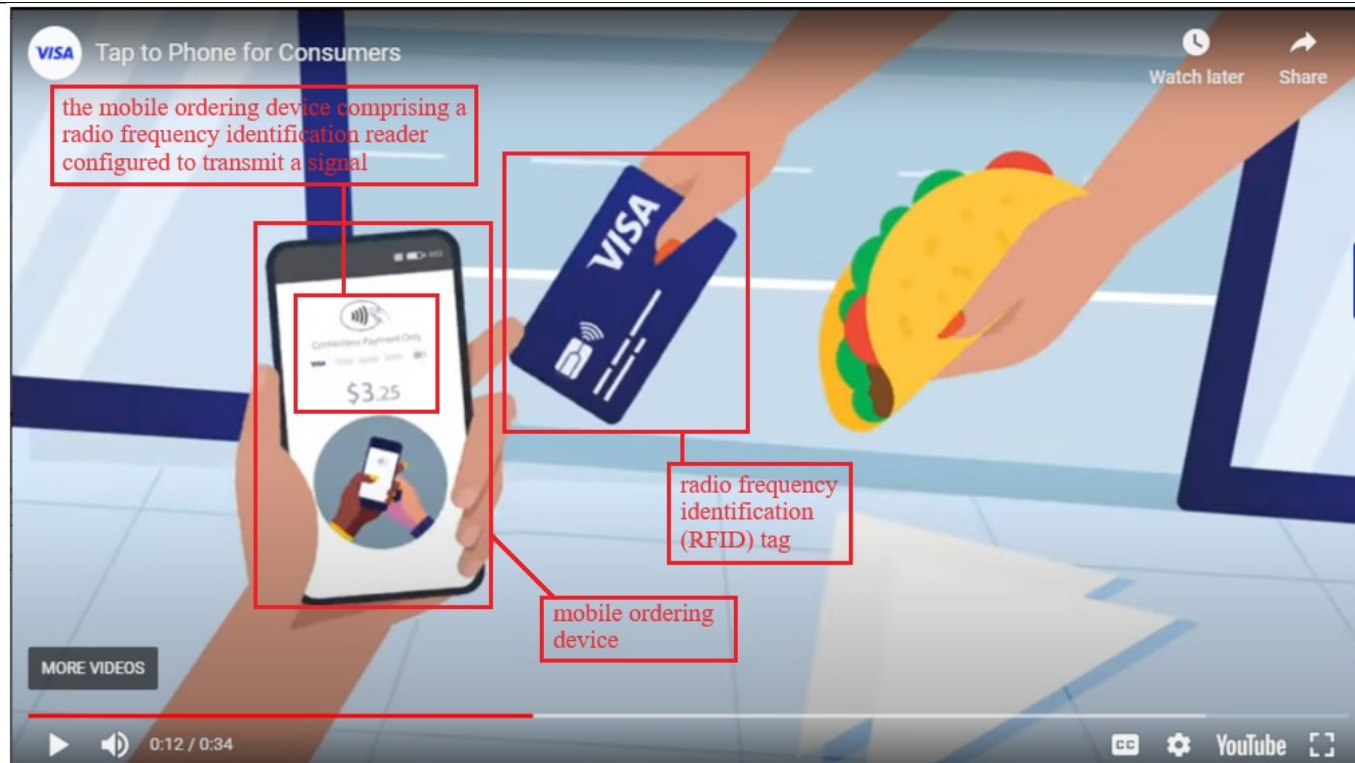
mobile ordering device

radio frequency identification (RFID) tag

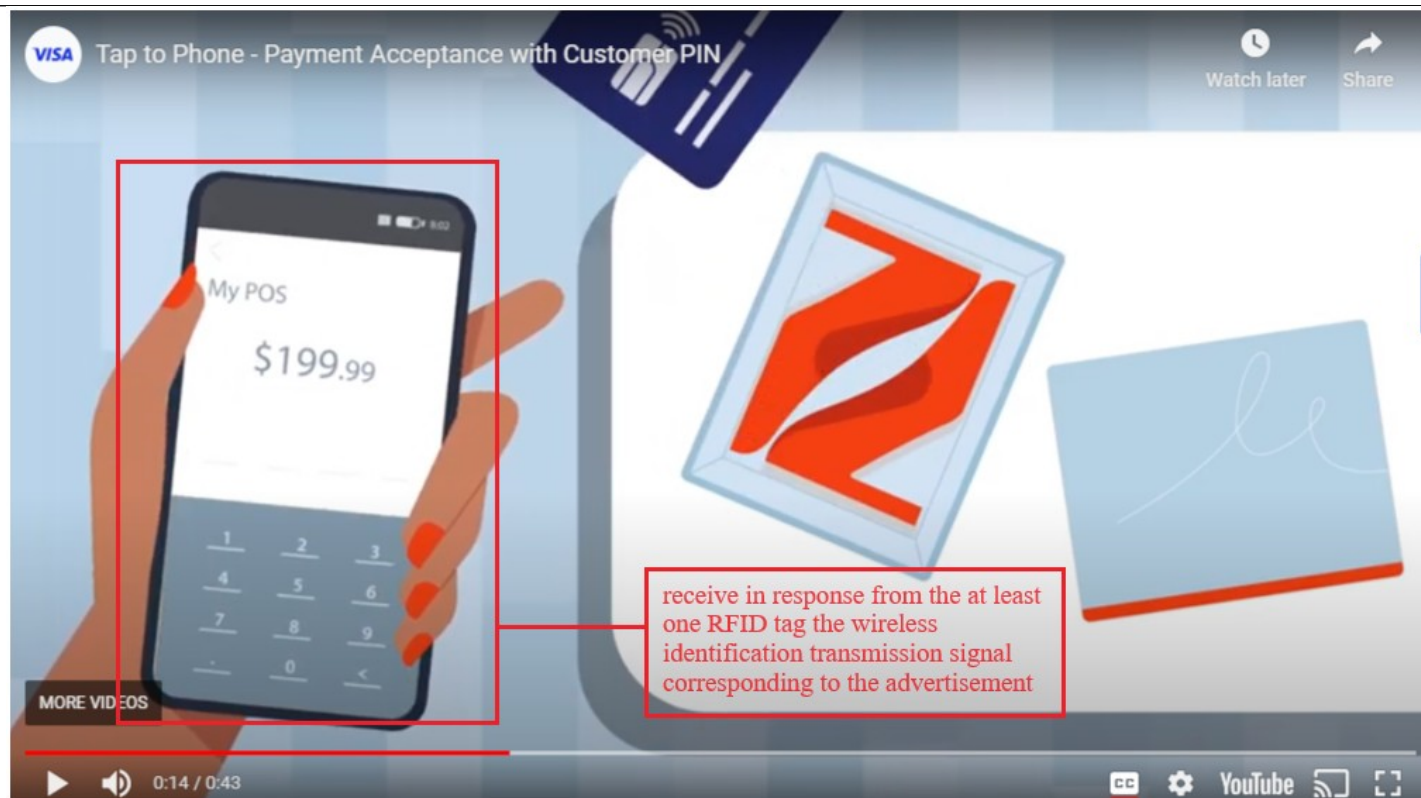
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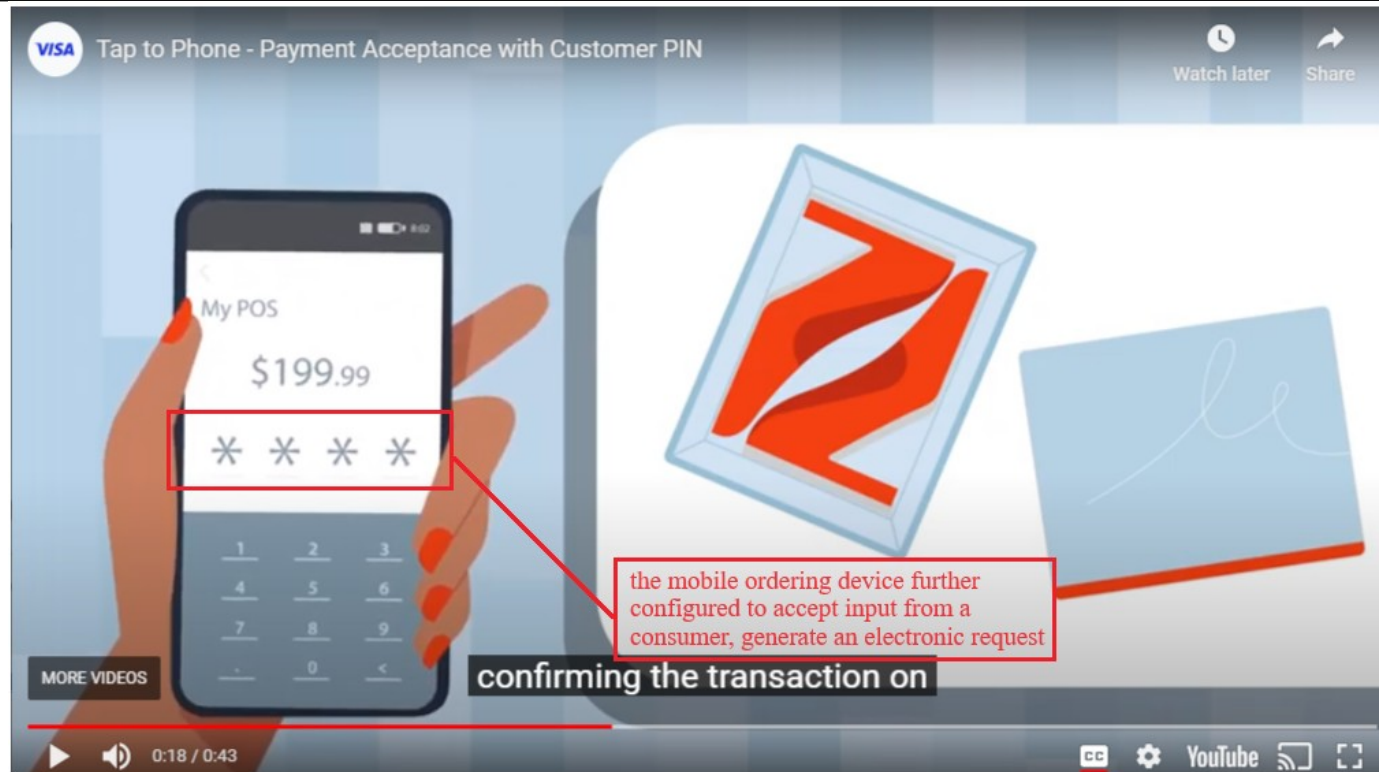


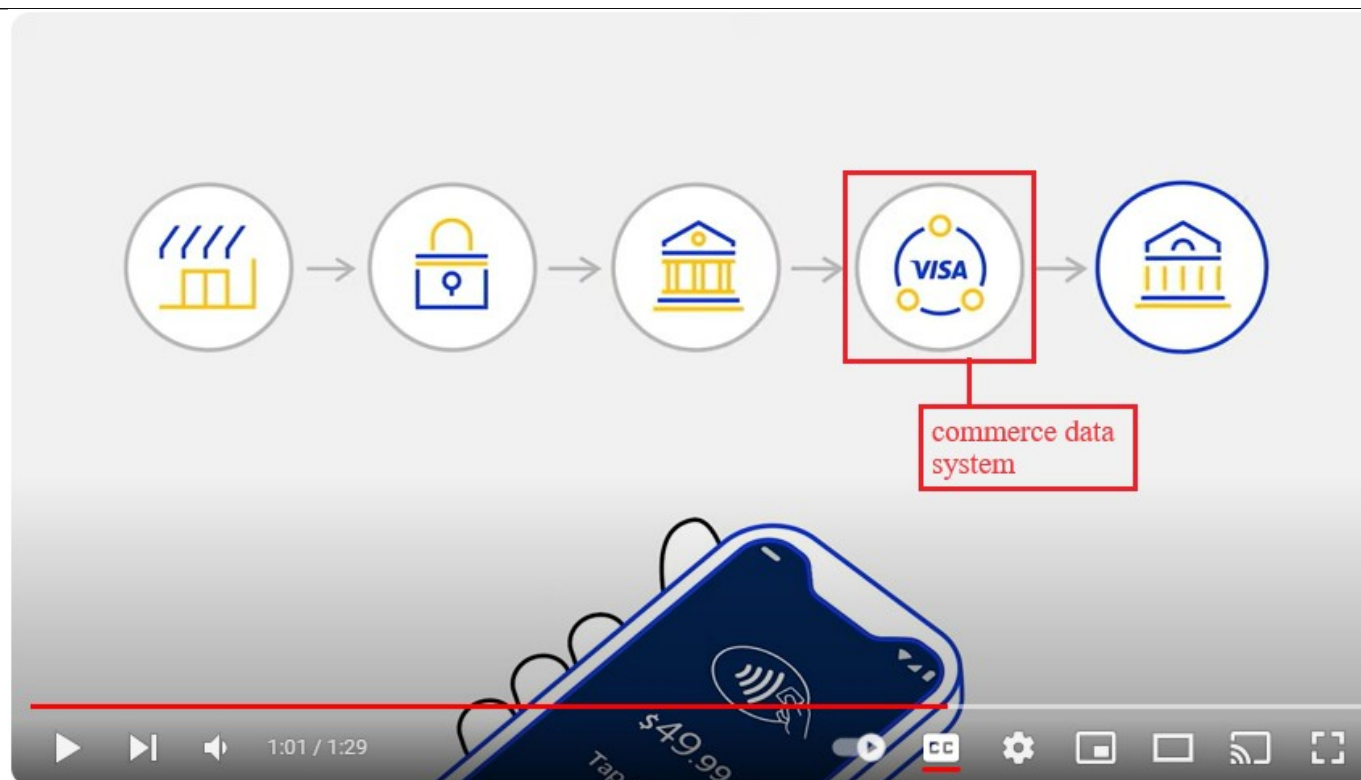
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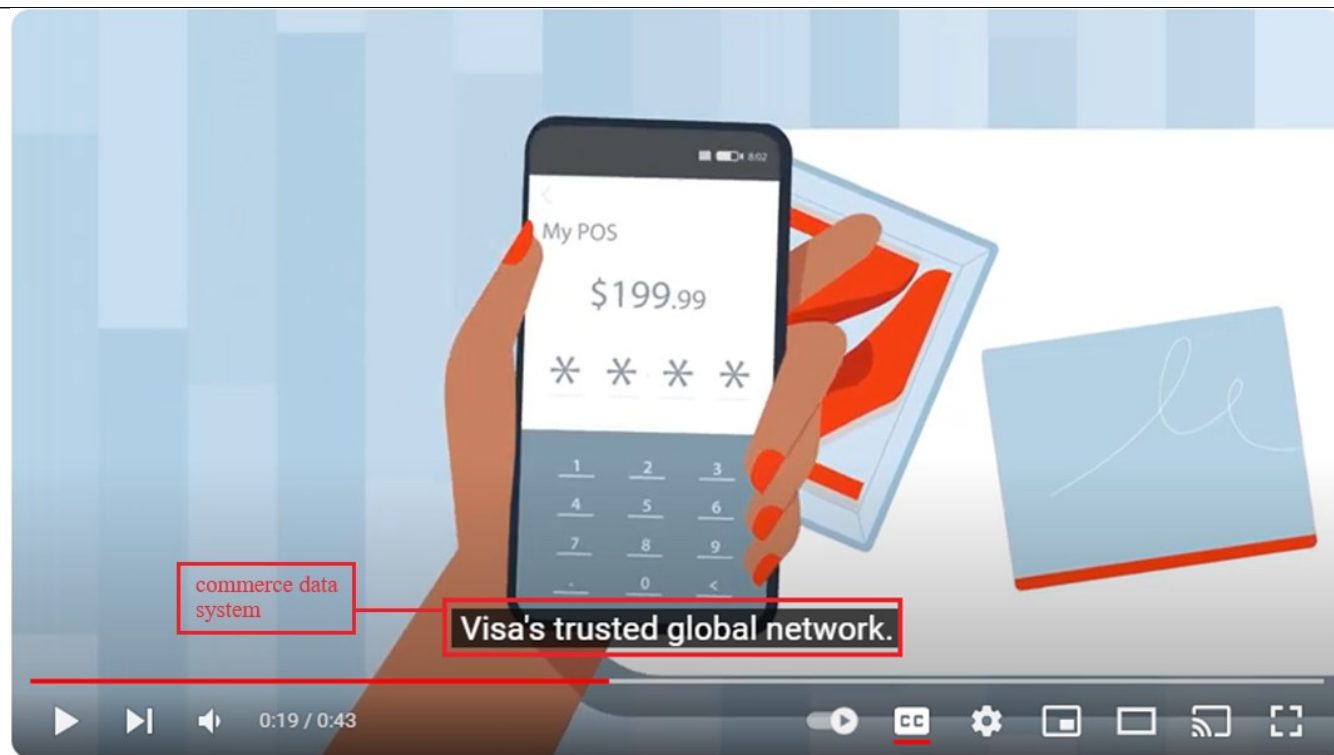
receive in response from the at least one RFID tag the wireless identification transmission signal corresponding to the advertisement

<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>





<https://www.youtube.com/watch?v=xzEYrPkKUOw>



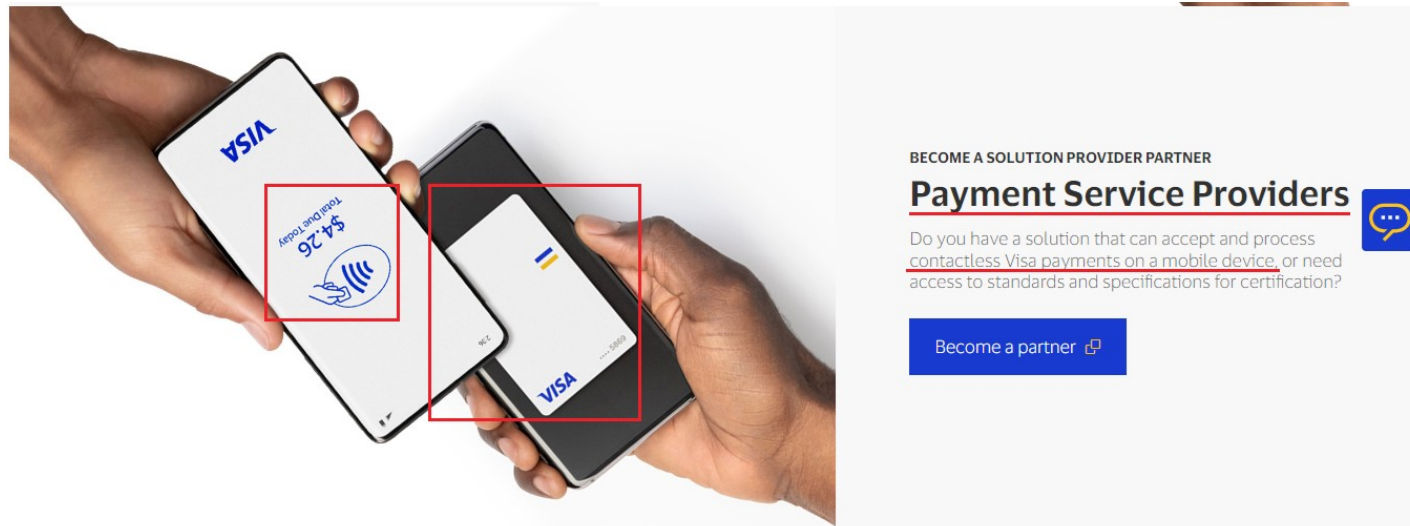
<https://usa.visa.com/visa-everywhere/innovation/connected-commerce/tap-to-phone.html>

	 <p>https://www.youtube.com/watch?v=cU7VxMjf3u8&ab_channel=VisaCommunication</p>
<p>the mobile ordering device in communication with the commerce data system, the commerce data system</p>	<p>The accused product discloses the mobile ordering device (e.g., Android phone with NFC-technology) in communication with the commerce data system (e.g., Visa's trusted global network), the commerce data system (e.g., Visa's trusted global network) for receiving and processing the request (e.g., payment request) of the mobile ordering device (e.g., Android phone with NFC-technology) across the network (e.g., RFID communication used by Near Field Communication (NFC) technology), and responding to the request (e.g., payment request) by sending information (e.g., acknowledgement in the form of Done or a checkmark on the display screen) to the mobile ordering device (e.g., Android phone with NFC-technology) via the network, the information associated with the wireless identification transmission signal (e.g., tag</p>

for receiving and processing the request of the mobile ordering device across the network, and responding to the request by sending information to the mobile ordering device via the network, the information associated with the wireless identification transmission signal.

responds with the requested information corresponding to a prompt for inputting a PIN).

As shown below, Visa's Tap to Phone is a contactless payment system using Near Field Communication (NFC) technology wherein a user can Pay with your NFC-enabled contactless card to a phone equipped with tap to phone software to accept payments. The device requests the payment process by inputting PIN that is required in the transaction to contactless card which when tapped on the reader of the phone equipped with Tap on Phone completes the transaction, to which the commerce data system (e.g., payments from any contactless card or mobile wallet) responds by an acknowledgement shown as a checkmark or an approved message.



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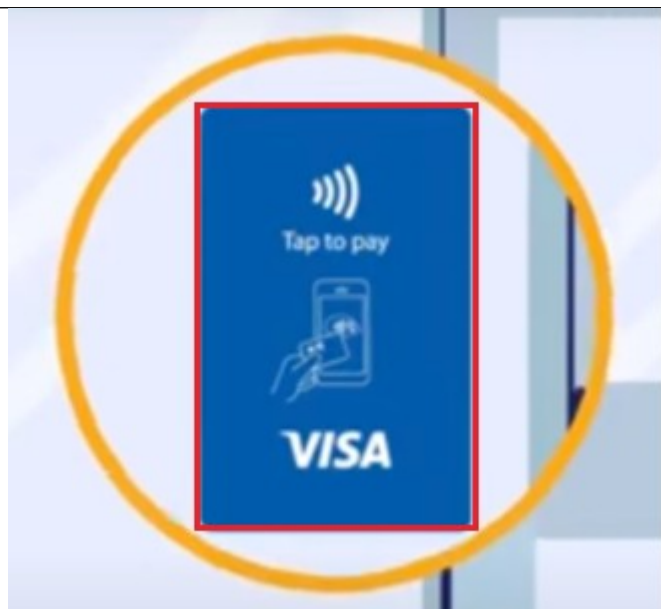


The image is a screenshot of a YouTube video player. The video is titled "Visa Tap to Phone - U.S." and has a duration of 2:05. The video content shows a hand holding a smartphone displaying a "Contactless Payment Only" screen with a payment amount of \$9.43. A red box highlights the smartphone screen, with a red line pointing to a text box labeled "mobile ordering device". Another red box highlights a blue Visa card being held by a hand, with a red line pointing to a text box labeled "radio frequency identification (RFID) tag". The video player interface includes a play button, a volume icon, a progress bar, and a timestamp of 0:10 / 2:05. The YouTube logo and a settings icon are also visible.

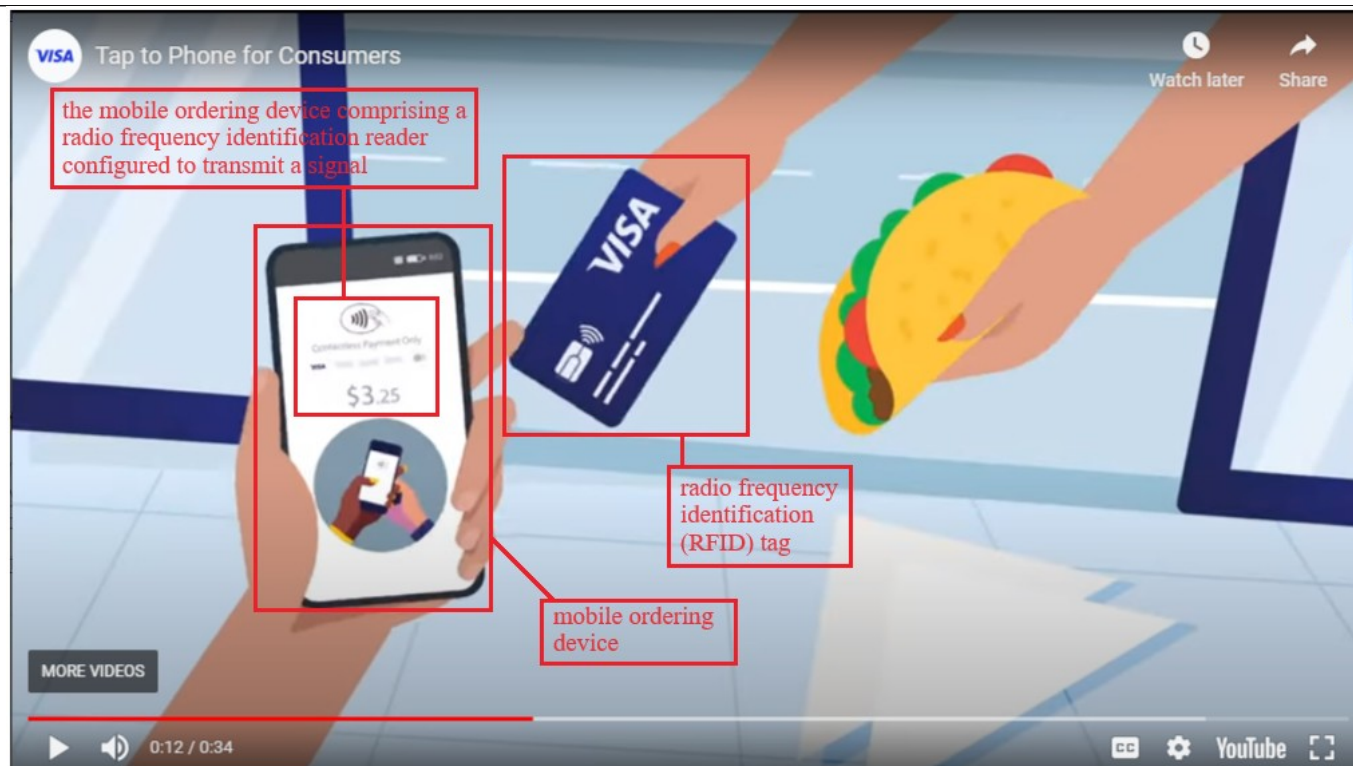
mobile ordering device

radio frequency identification (RFID) tag

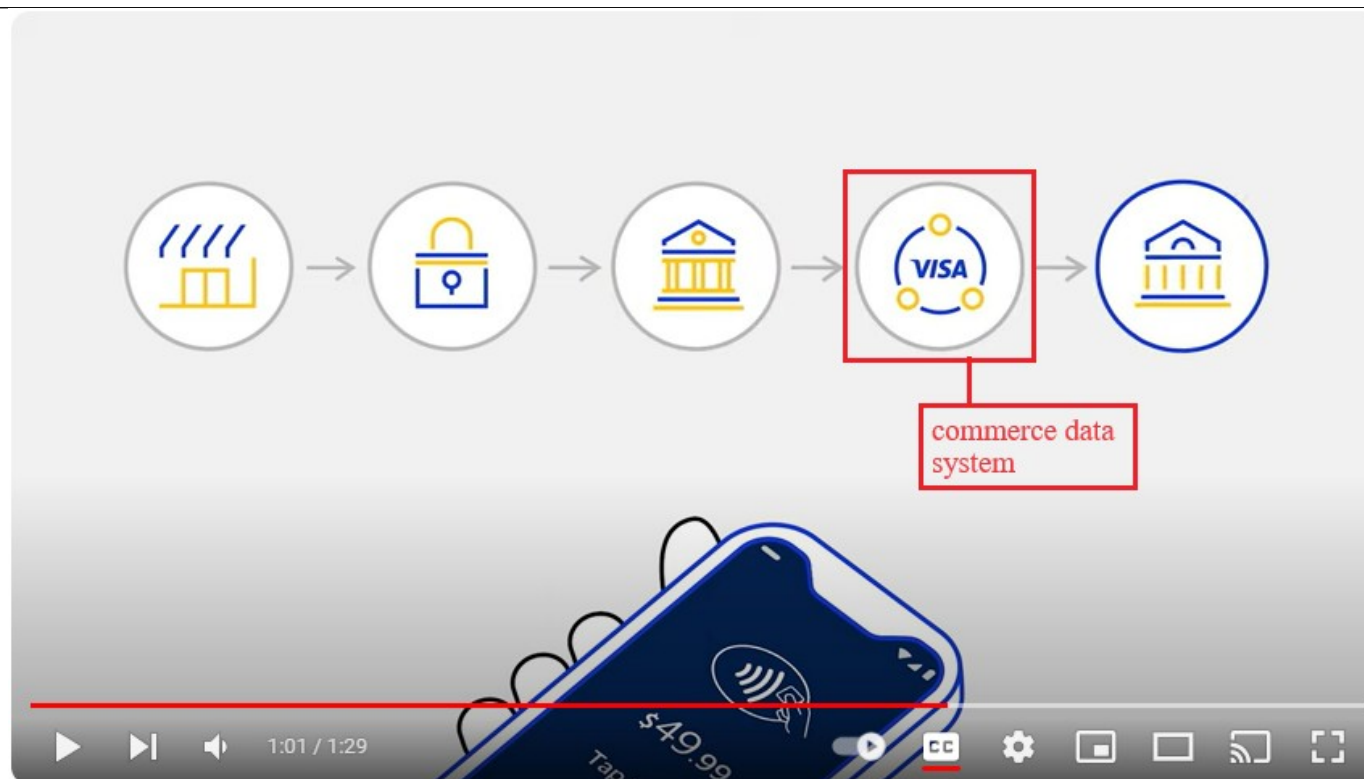
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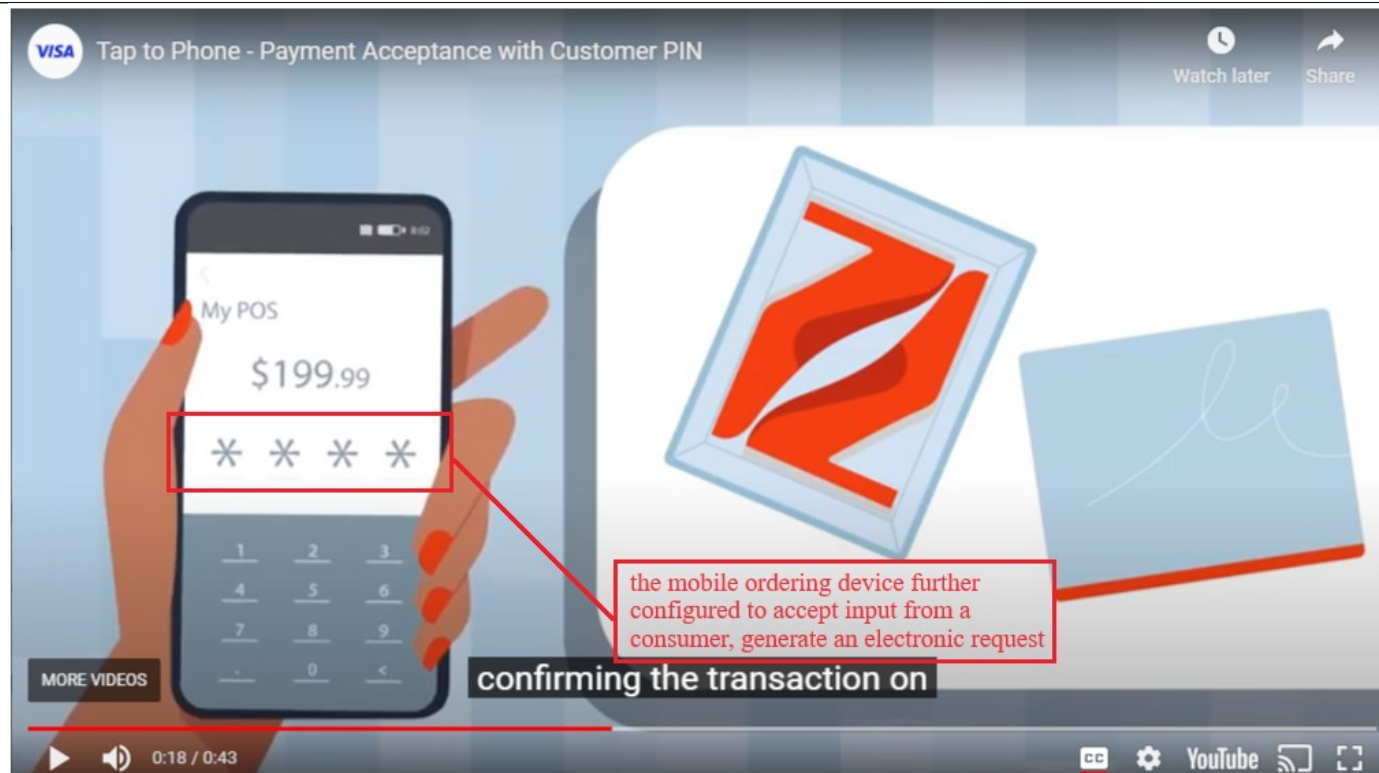
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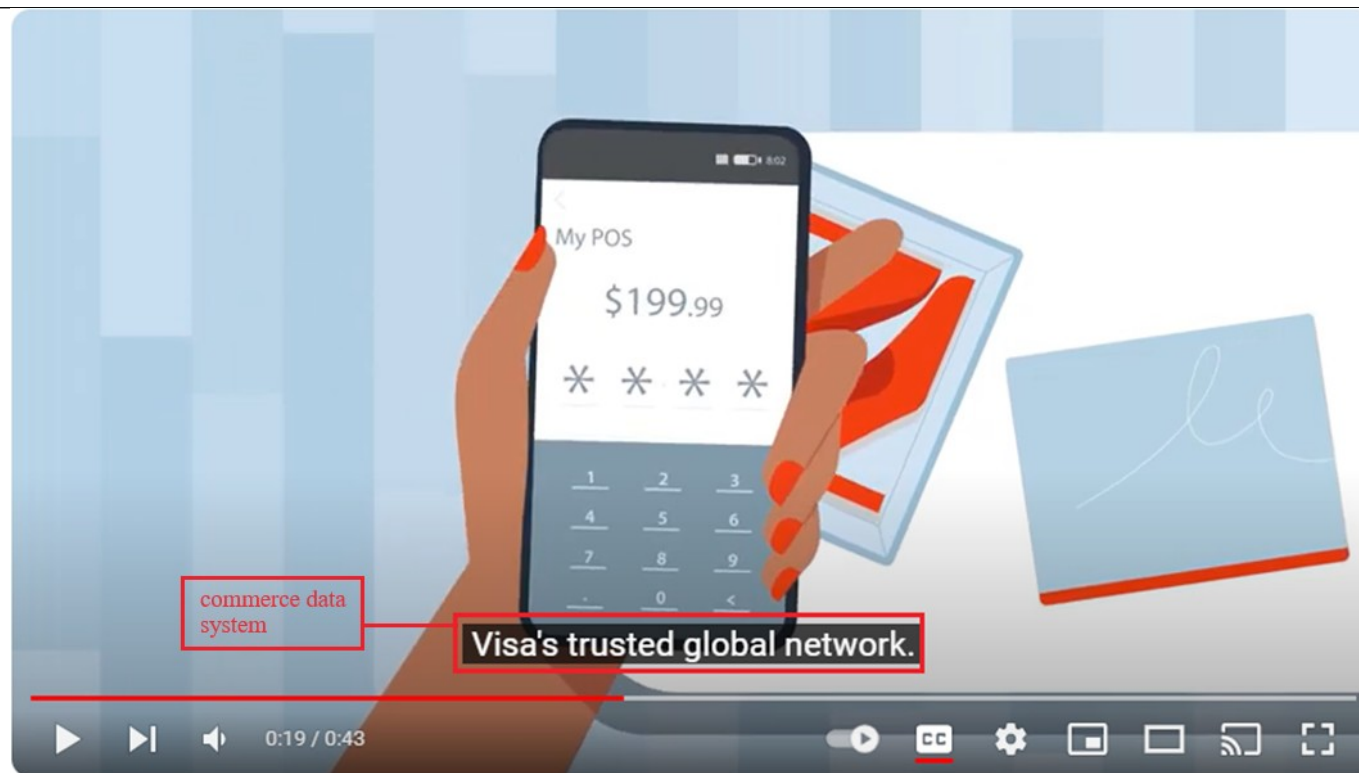
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<https://www.youtube.com/watch?v=xzEYrPkKUOw>







https://www.youtube.com/watch?v=cU7VxMjf3u8&ab_channel=VisaCommunication